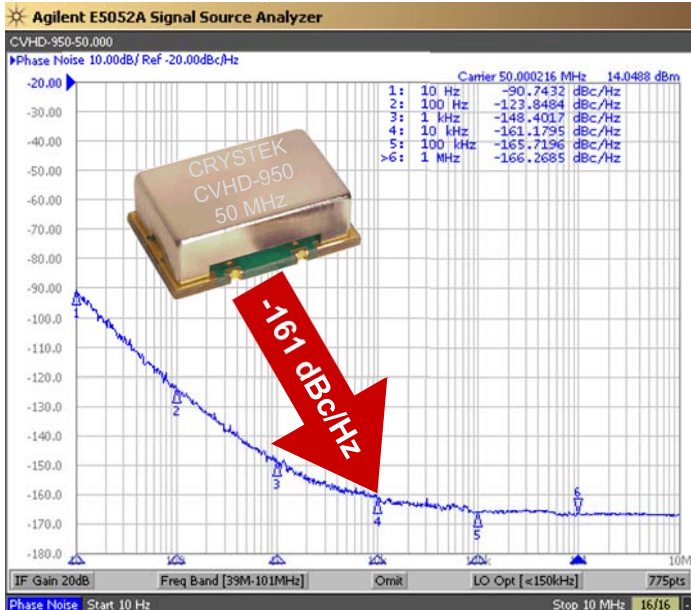


# CVHD-950 VCXO

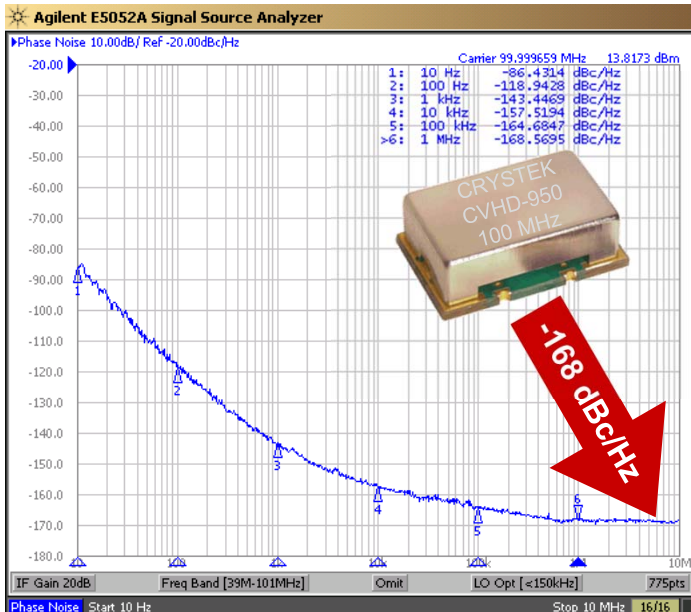
## Ultra-Low Phase Noise Oscillators

**CVHD-950 Model**  
9×14 mm SMD, 3.3V, CMOS

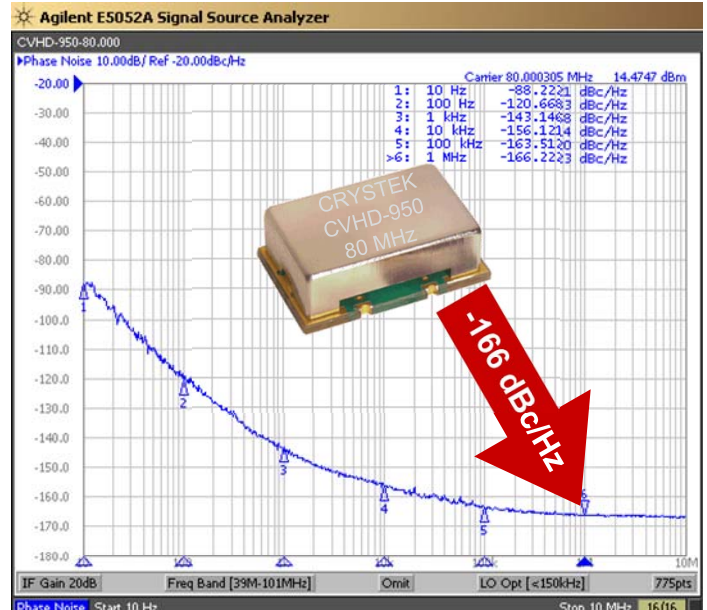
**50 MHz HCMOS 3.3V**



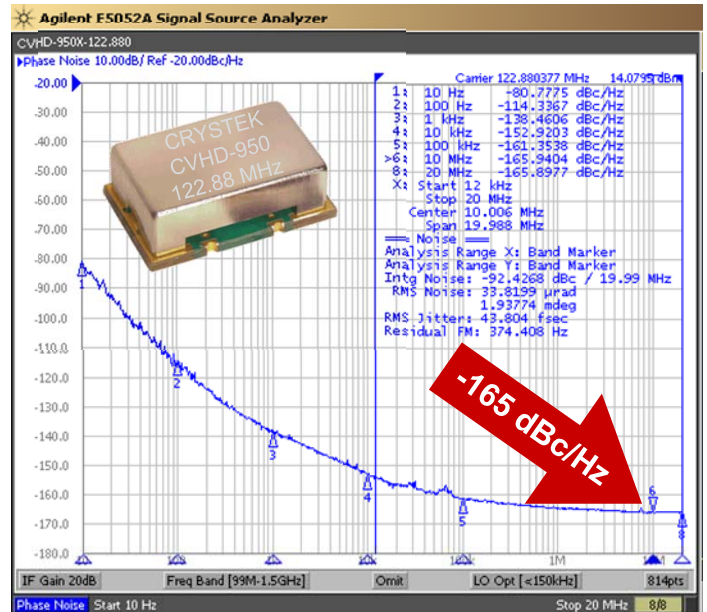
**100 MHz HCMOS 3.3V**



**80 MHz HCMOS 3.3V**



**122.880 MHz HCMOS 3.3V**



**Model CVHD-950 is a 40 MHz to 130 MHz CMOS Voltage Controlled Crystal Oscillator. High Q crystal and 3<sup>rd</sup> overtone technology provides Ultra-Low Phase Noise and Low-Jitter performance with a CMOS output. Features include -168 dBc/Hz phase noise floor with 3.3Vdc input voltage, -40°C to +85°C operating temperature, and 9×14 mm SMT package. The oscillator has no sub-harmonics.**

**Applications include High Definition TV, Avionics Low Phase Signal Sources, and Test and Measurement.**

Rev: X  
Date: 06-Sep-2017  
Page 1 of 3

# CVHD-950 VCXO

## Ultra-Low Phase Noise Oscillators



**CVHD-950 Model**  
9x14 mm SMD, 3.3V, CMOS

<b>Frequency Range:</b>	<b>40 MHz to 130 MHz</b>
<b>Temperature Range:</b>	<b>0°C to +70°C (standard)</b>
<b>(Option M)</b>	<b>-20°C to +70°C</b>
<b>(Option X)</b>	<b>-40°C to +85°C</b>
<b>Storage:</b>	<b>-45°C to 90°C</b>
<b>Input Voltage:</b>	<b>3.3V ±0.3V</b>
<b>Supply Pushing:</b>	<b>1.2ppm/V Typical</b>
<b>Input Current:</b>	<b>15mA Typical, 25mA Max</b>
<b>Output:</b>	<b>CMOS</b>
<b>Symmetry:</b>	<b>45/55% Max @ 50%Vdd</b>
<b>Rise/Fall Time:</b>	<b>3nsec Max @ 20% to 80% Vdd</b>
<b>Logic:</b>	<b>“0” = 10% Vdd Max</b>
	<b>“1” = 90% Vdd Min</b>
<b>Load:</b>	<b>15pF</b>
<b>Output Current:</b>	<b>±24mA Max</b>
<b>Input:</b>	
<b>Modulation Bandwidth:</b>	<b>&gt;10kHz @ -3dB</b>
<b>Input Impedance:</b>	<b>51 kΩ</b>
<b>Control Voltage:</b>	<b>1.65V ±1.65V</b>
<b>Tuning Sensitivity:</b>	<b>+25ppm/V Typical</b>
<b>Frequency Pulling:</b>	<b>±20ppm APR Min</b>
	<b>(Inclusive of frequency stability, calibration, and aging.)</b>
<b>Linearity:</b>	<b>±5% Max</b>
<b>Phase Jitter (12kHz~20MHz):</b>	<b>40 fsec Typical @100MHz</b>
<b>Typical Phase Noise (100MHz):</b>	
<b>1kHz</b>	<b>-140 dBc/Hz</b>
<b>10kHz</b>	<b>-155 dBc/Hz</b>
<b>100kHz</b>	<b>-164 dBc/Hz</b>
<b>1MHz</b>	<b>-166 dBc/Hz</b>
<b>Phase Noise Floor:</b>	<b>-166 dBc/Hz Typical, -162 dBc/Hz Max</b>
<b>Sub-harmonics:</b>	<b>None</b>
<b>Aging:</b>	<b>&lt;3ppm 1<sup>st</sup> year, &lt;1ppm thereafter</b>

Part Number Example: CVHD-950X-100.000 = 3.3V, 45/55, -40°C to +85°C (±20ppmAPR), 100 MHz

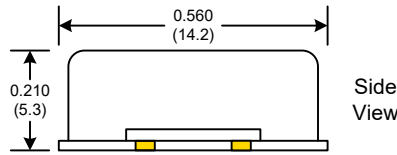
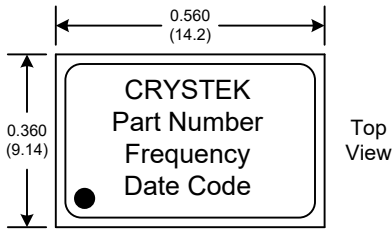
Absolute Maximum Ratings		
Parameter	Rating	Unit
Input Supply Voltage	+6.0	V
Input Control Voltage	+10.0	V

Rev: X
Date: 06-Sep-2017
Page 2 of 3

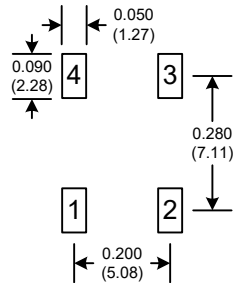
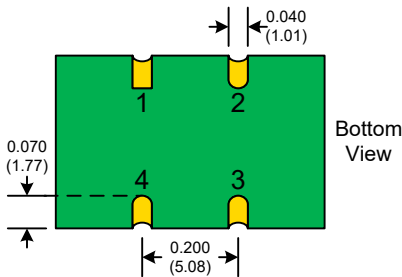
# CVHD-950 VCXO

## Ultra-Low Phase Noise Oscillators

**CVHD-950 Model**  
9×14 mm SMD, 3.3V, CMOS



**SUGGESTED PAD LAYOUT**

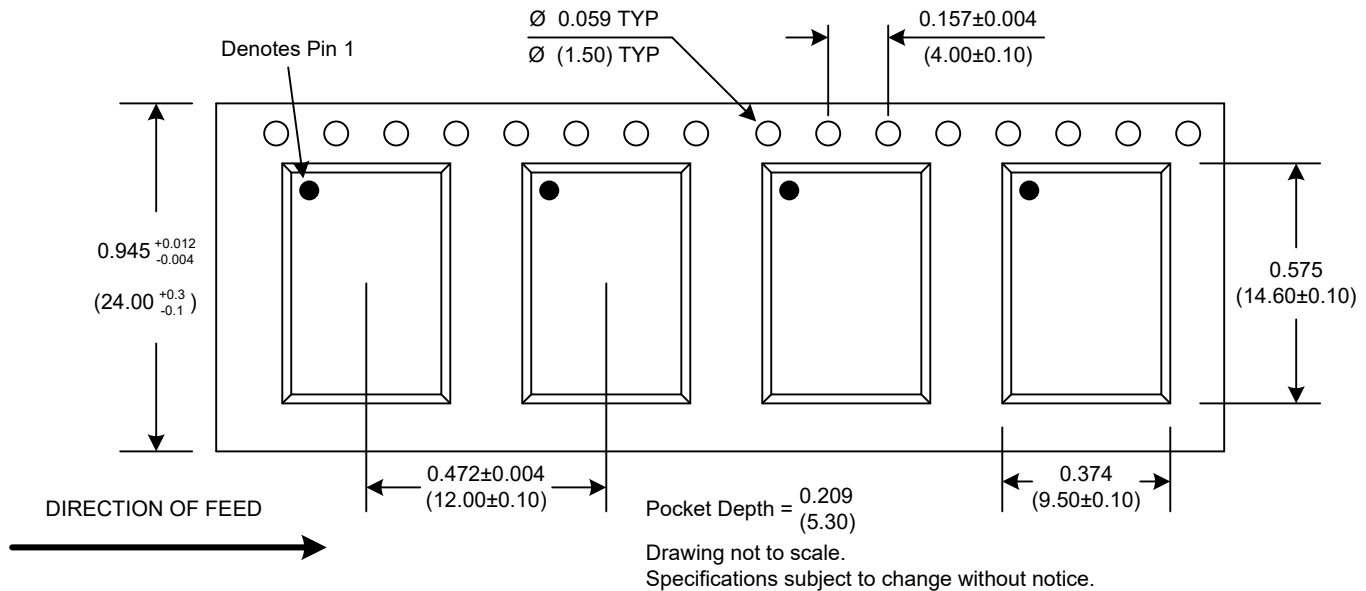


**RECOMMENDED REFLOW SOLDERING PROFILE**  
900034 (See App Note listed on website)  
<http://www.crystek.com/specification/reflow/900034.pdf>

Pad	Connection
1	Volt Control
2	GND
3	OUT
4	Vdd

**PAD FINISH:** Immersion Gold (ENIG); 5 micro inches maximum

**TAPE AND REEL**



**Mechanical:**

Shock: MIL-STD-883, Method 2002, Condition B  
Solderability: MIL-STD-883, Method 2003  
Vibration: MIL-STD-883, Method 2007, Condition A  
Solvent Resistance: MIL-STD-202, Method 215  
Resistance to Soldering Heat: MIL-STD-202, Method 210, Condition I or J

**Environmental:**

Thermal Shock: MIL-STD-883, Method 1011, Condition A  
Moisture Resistance: MIL-STD-883, Method 1004

Rev: X  
Date: 06-Sep-2017  
Page 3 of 3

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Crystek:](#)

[CVHD-950-120.000](#) [CVHD-950-125.000](#) [CVHD-950-74.25](#) [CVHD-950X-100.000](#) [CVHD-950-74.1758](#) [CVHD950-122.88](#) [CVHD950X-54.000](#) [CVHD-950X-122.88](#)